

NEW ABSTRACT

A rewritable optical data storage medium for high-speed recording by a focused radiation beam includes a substrate carrying a stack of layers. The stack includes a substantially transparent first auxiliary layer I1, a substantially transparent second auxiliary layer I2 having a thickness d_{I2} , and a recording layer of a phase-change material having a thickness d_p and having at least a composition $\text{Ge}_x\text{Sn}_y\text{Sb}_{1-x-y}$, where $0.05 < x < 0.30$ and $0.15 < y < 0.30$. The recording layer is interposed between the two auxiliary layers I1, I2. A third auxiliary layer I3 with a thickness d_{I3} acting as a heat sink is present at a side of I2 opposite to the side of the recording layer. The following formula is fulfilled $\lambda_{I2}/d_{I2} > 5 \cdot 10^8 \text{ W m}^{-2} \text{ K}^{-1}$, in which formula λ_{I2} is the heat conduction coefficient of the material of the I2 layer.